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*Short communication*

## **Nasofacial Anthropometry of Adult Bini Tribe In Nigeria**

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**ABSTRACT:** Variation is a common phenomenon in the physiognomy of humans. Therefore, physical anthropometry provides the techniques to assess human body dimensions and to describe morphological variations that exist among different human population. This study was conducted to describe the physical morphometric characteristics of face and nose of the Bini tribe in Nigeria. It involved 450 Bini subjects (230 males and 220 females) aged between 16 to 35 years. The results showed sexual dimorphism in all the dimensions of face and nose studied with the males having higher mean values than the females. The mean facial and nasal indices was 86.93 and 97.32 respectively. This implied the prevalence of mesoprosopic face type and platyrrhine nose type among the Bini tribe in Nigeria. This study showed age and gender as important factors in the description of human physiognomy.

**Keywords:** Anthropometry, Nose, Face, Bini Tribe, Nigeria

### **INTRODUCTION**

An important phenomenon occurring in human population is the variation in their physical morphology. The physical dimensions of human body are influenced by ecological, geographical, racial, age and gender factors (Golalipour *et al*, 2003; 2001). Physical anthropometry which probably began due to interest in racial classification provides the technique by which human body dimensions can be evaluated and measured (Chamella, 1997; Heidari *et al*, 2006). Cephalometry is an important branch of anthropometry which involves measurements of the head and face (Heidari *et al*, 2004; Will *et al*, 1995; Jahanshahi *et al*, 2008). Cephalometry is helpful in forensic in forensic medicine, plastic and reconstructive surgery,

orthodontics and clinical diagnosis (Heidari *et al*, 2004; William *et al*, 1995; Meibodi and Mastari, 1996). The facial and nasal dimensions are among important cephalometric results that have been used to describe racial and sexual differences (Heidari *et al*, 2006; Franciscus, 1991; Zhang *et al*, 1990; Porter and Olson, 2003). This study was done to describe the Facial and Nasal morphological characteristics of the Bini tribe with increasing age.

### **METHODOLOGY**

This study was carried out among the Bini ethnic group in the South – South region of Nigeria. The sample size of this study comprises 450 subjects (230 males and 220 females) grouped into four age groups: 16 – 20years, 21 – 25 years, 26 – 30 years and 31 – 35 years. The length and width of face and nose of each subject was measured using spreading and sliding calipers. The morphological facial length was measured from the nasion to gnathion. The total facial length was measured from the trichion to gnathion. The width of the face was measured as the bizygomatic width between the right and left zygion. The nasal height was measured from nasion to nasospinale. The nasal width was measured as the distance between the right and left ala. The data obtained was statistically analyzed and the results compared across gender.

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## RESULTS

The result for age group 16 – 20 years represented in Table 1 showed a higher mean values among the males than the females. The sexual difference was significant for all the measurements except the facial width ( $P > 0.05$ ). The results for older age groups depicted in Tables 2 – 4, were also similar. All the dimensions studied showed increase in their mean values from lower to higher age groups.

The mean facial and nasal indices also showed a significant variation across gender with higher values observed among the males than the females. The overall facial and nasal indices- 86.93 and 97.32 respectively, implied the prevalence of the mesoprosopic face type and platyrrhine nose type among the Bini tribe in Nigeria.

**Table 1:**

Mean ( $\pm$  SD) of the length and width of face and nose of Bini tribe aged 15 – 20 years.

VARIABLES	MALE (65) Mean ( $\pm$ SD)	FEMALE (68) Mean ( $\pm$ SD)
Morphological Facial Length	11.05 $\pm$ 0.46	10.67 $\pm$ 0.41
Total facial Length	18.30 $\pm$ 0.63	17.80 $\pm$ 0.58
Facial Width	12.46 $\pm$ 0.52	12.45 $\pm$ 0.47
Nasal Length	4.45 $\pm$ 0.12	4.38 $\pm$ 0.13
Nasal Breadth	4.32 $\pm$ 0.10	4.20 $\pm$ 0.11

**Table 2:**

Mean ( $\pm$  SD) of the length and width of face and nose of Bini tribe aged 21 – 25 years.

VARIABLES	MALE (57) Mean ( $\pm$ SD)	FEMALE (52) Mean ( $\pm$ SD)
Morphological Facial Length	11.15 $\pm$ 0.57	10.70 $\pm$ 0.55
Total facial Length	18.90 $\pm$ 0.67	18.30 $\pm$ 0.62
Facial Width	12.64 $\pm$ 0.55	12.62 $\pm$ 0.50
Nasal Length	4.57 $\pm$ 0.10	4.42 $\pm$ 0.11
Nasal Breadth	4.45 $\pm$ 0.12	4.34 $\pm$ 0.12

**Table 3:** Mean and Standard Deviation of the length and width of face and nose of Bini tribe aged 25 – 30 years.

VARIABLES	MALE (50) Mean ( $\pm$ SD)	FEMALE (45) Mean ( $\pm$ SD)
Morphological Facial Length	11.21 $\pm$ 0.48	11.08 $\pm$ 0.53
Total facial Length	19.50 $\pm$ 0.61	18.70 $\pm$ 0.66
Facial Width	12.85 $\pm$ 0.48	12.83 $\pm$ 0.57
Nasal Length	4.68 $\pm$ 0.14	4.47 $\pm$ 0.12
Nasal Breadth	4.54 $\pm$ 0.12	4.36 $\pm$ 0.13

**Table 4:**

Mean ( $\pm$  SD) of the length and width of face and nose of Bini tribe aged 31 – 35 years.

VARIABLES	MALE (58) Mean ( $\pm$ SD)	FEMALE (55) Mean ( $\pm$ SD)
Morphological Facial Length	11.24 $\pm$ 0.46	11.12 $\pm$ 0.58
Total facial Length	19.80 $\pm$ 0.52	18.90 $\pm$ 0.54
Facial Width	12.92 $\pm$ 0.53	12.86 $\pm$ 0.63
Nasal Length	4.72 $\pm$ 0.11	4.59 $\pm$ 0.14
Nasal Breadth	4.64 $\pm$ 0.09	4.42 $\pm$ 0.10

**Table 5:**

Mean ( $\pm$  SD) of the Facial and Nasal Indices of Male and Female Bini tribe

VARIABLES	Male (230)		Females (220)	
	Mean	S. D.	Mean	S. D.
Facial Index	87.98	2.55	85.88	2.48
Nasal Index	97.65	2.78	96.99	2.69

## DISCUSSION

The face and the nose are important physiognomic features in humans. The facial and nasal dimensions are among the most important cephalometric parameters that describe human morphology. The variations in the form of the nose are greater than those found in the cranium and much greater than the body variation as a whole (Indira and Sharma, 1959). The result of this study showed significant differences in the mean morphological and total facial and nasal length and nasal width across gender. There was no significant difference in the mean facial width across gender. The study by Kharbanda *et al* 1991 reported significant difference for both anterior and facial height between males and females Indians. Similarly, sexual dimorphism was reported in a study by Pandey (2006) among Onges tribe in India. In the study, the nasal length, nasal breadth, bizygomatic breadth and facial height were significantly higher among male Onges than female Onges. The study by Olotu *et al* 2009 showed that the mean facial and nasal height of adult Igbo males in Nigeria were significantly higher ( $P < 0.05$ ) than the values for adult Igbo females. This study in agreement with several studies showed the relevance of nasal and facial dimensions in the description of gender based variation among different groups and races of human population.

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